LETTER H: PACIFIC SEABIRD GROUP

Pacific Seabird Group

DEDICATED TO THE STUDY AND CONSERVATION OF PACIFIC SEABIRDS AND THEIR ENVIRONMENT

Julia K. Parrish
Chair
Zoology Department
Box 351800
University of Washington
Seattle, WA 98195
(206) 616-2938

Craig S. Harrison
Vice Chair for Conservation
4001 North Ninth Street #1801
Arlington, VA 22203
(202) 778-2240

William Sydeman
Chair-Elect
Point Reyes Bird Observatory
4990 Shoreline Highway
Stinson Beach, CA 94970
(415) 868-1221

To: Mr. Tim Setnicka, Superintendent
Channel Island National Park
1901 Spinnaker Dr.
Ventura, CA 93001

From: Pacific Seabird Group (PSG)

Re: **Draft Environmental Impact Statement for the Anacapa Island Restoration Project (AIRP)**

Date: 11 September 2000

Thank-you for the opportunity to comment on the AIRP. As you know, the Pacific Seabird Group (PSG) is an international organization of professionals engaged in research on, education about, and conservation of seabirds. With over 500 members, PSG is the largest group of seabird experts in the United States. PSG regularly comments on proposed projects concerning seabird conservation and restoration, and has recently authored a volume on seabird restoration[i].

PSG applauds and supports agencies and organizations which attempt to remove introduced species from islands, particularly in cases where the introduced predator has been shown to have deleterious effects on seabird populations. Such is the case with many rat introductions. PSG supports the proposal for 100% removal of introduced black rats, *Rattus rattus*, from Anacapa Island, and the Emergency Response Plan (ERP) to keep the island rat-free. However, we do take issue with or have concerns about several aspects of the rat eradication plan, as written. In general, the message pervading the DEIS is that seabirds are more important to preserve and conserve than other species, including endemic species. PSG does not support this view. We have listed and elaborated on each point below.

Timing

Although PSG is listed in the DEIS as an organization receiving the document, in fact, the DEIS did not reach us until the week prior to the end of the comment period. Given the Labor Day holiday, this left precious few working days for our members to comment. In future, and specifically with the FEIS, PSG would appreciate more time to read and review documents. Because the timeline imposed by this late receipt of the DEIS made your deadline unreasonable, Dr. Julia K. Parrish, Chair of PSG spoke with Steve Ortega on 1 November 2000, and obtained an extension of several days from him.

Use of PSG Opinion

We note that Chapter 3 pg 32 states:

> "The population decline of the Xantus' Murrelet in conjunction with the threats that face this species, has led the Pacific Seabird Group (PSG) to formulate a petition to list the species for protection under the Endangered Species Act. The PSG is a group dedicated to the study and conservation of Pacific seabirds and their environment. Rationale for the group to petition for listing the Xantus' is based on the following (PSG Annual Meeting: Summary Notes 2000):
> Low Population size
> Expansion of commercial squid fishery
> Potential oil spill impacts
> Introduced predators (Rats)"

The Executive Council - the elected representatives of PSG - were not aware that we had done this at this past, or any other, annual meeting. No request for information on PSG's opinion on the merits of listing the Xantus' Murrelet was sent to either the Chair of PSG or the Vice-Chair for Conservation, Craig Harrison.

The Executive Council has shifted control of Xantus' Murrelet issues to the Xantus' Murrelet Committee, chaired by Bill Everett and Ken Briggs. As such, Bill and Ken are responsible for directing committee actions, including any actions by the committee members to draft potential listing petitions. At the present time, the Xantus' Murrelet Committee is in the process of editing a draft petition to list the Mantu's Murrelet as endangered under the Endangered Species Act, to be submitted to the Executive Council in future. At that time, the Executive Council will read and review the draft, and decide whether to submit the document as a listing petition, to amend the draft and submit it as a listing petition, or to drop the issue. Before this formal process in completed, PSG has no opinion about the merits of petitioning to list the Xantus' Murrelet, and we certainly would not issue any statement listing specific reasons for such a listing.

H1 **PSG insists that the language in the FEIS be changed to reflect the fact that PSG has not yet rendered an opinion on the merits of or reasons for listing Xantus' Murrelets.**

Documentation of Harm

Actual documentation of the harm rats have delivered to seabirds, specifically Xantus' Murrelets and Ashy Storm-petrels, is seriously lacking in the DEIS. As far as we can determine, either Gerry McChesney or Harry Carter (the document gives both credit in different sections for the same data) did a habitat survey and determined that Xantus' Murrelets only use 2 sites out of the available habitat (listed as 1,510 sites). This figure, by the way, is mis-quoted as 0.4%, but is actually 0.1% (0.4% would be six nests). There is no mention of how this habitat survey was conducted, the objective criteria used in the survey, or the specific results of the survey. There are no habitat-specific data presented.

In Chapter 3, page 33, the DEIS goes on to say that "both eggs showed evidence of mammalian predation and were in areas where rats appeared to be common." However, only a few sentences later, the document states :Murrelets on Anacapa Island are mostly limited to nesting in areas inaccessible to rats or where rats occur infrequently." Thus, it is confusing to us, without seeing any of the actual data, what the situation really is. Are rats coincident with Murrelet nests or not? Are rats responsible for the egg predation (as is insinuated) or is it possible that the endemic deer mouse is the culprit? As you are probably aware, mice have been documented as predators on small seabird eggs[ii].

H2

Because the rationale for rat eradication appears to be the low numbers of Xantus' Murrelets and the potential for nesting of Ashy Storm-petrels, **PSG would like to see a much more detailed presentation of the science linking rats to seabird decline on Anacapa Island**. Specifically, PSG recommends:

H3 (1) Inclusion of any historical data pointing to larger than present breeding populations of Xantus' Murrelets or Ashy Storm-petrels, or even greater use of island habitat than present.

H4 (2) Inclusion of the habitat types sampled, the sampling methods used, and the specific numeric outcomes, including any statistics.

H5 (3) Inclusion of any evidence of rat predation.

Endemic Deer Mice

Although PSG strongly supports the eradication of introduced predators, including rats, on islands housing seabirds, we do lend our support at any cost. With specific reference to the AIRP, PSG is concerned about the lack of documentation of the specific mitigation efforts which will be undertaken to insure the continued health - at present levels of genetic diversity - of the endemic

H1: Chapter 3 page 40 will be changed to read as follows:

> "The executive committee of the Pacific Seabird Group has authorized a committee to draft a petition to list the Xantus Murrelet for protection under the Endangered Species Act." The Pacific Seabird Group, however, has yet to render an opinion on the merits or reasons for listing Xantus' Murrelet."

H2: The most current information of seabird predation, including Xantus' Murrelet predation, by rats is from surveys conducted in 1997 (summarized in McChesney et. al. 2000) , 2000 (H.Carter unpublished data), and 2000 (P. Martin pers. comm).

Since publishing of the DEIS, the cited "H.Carter Unpublished Data pg 33 DEIS" is now a published report (see citation McChesney et al. 2000). Results of the survey show that they found evidence of nesting murrelets at only two sites in areas that were fully accessible to rats, or 0.4% of 505 potential sites investigated on ground surveys. Both eggshells showed evidence of rodent predation and were in areas where rats appeared to be common. In contrast, at Santa Barbara Island (where rats do not occur), similar surveys in 1991 found murrelet eggshell fragments in 29.4% of potential sites, including 27.9% of crevice and 39.6% of shrub sites.

H.Carter (unpublished data), researchers collecting baseline Xantus' Murrelet population data noted the following during sea cave nest surveys: Eleven nests were found in sea caves with known nesting in the past at Anacapa Island. Some caves with previous nesting were empty. No murrelets were handled and none were flushed from nests during surveys. About 4-5 eggs appeared to have been depredated by rats.

P.Martin (Unpublished data), monitoring gull productivity grids in June 2000 found evidence of rat chewed carcasses on 10 gull chicks. Evidence strongly suggests rat predation because of the condition of the carcass (brain cavity opened and eaten), and location of where the carcasses were found (thick brush with numerous rat burrows). It is not known if the gulls were previously dead, or if rats preyed upon the chicks.

Evidence of rat impacts to the Xantus' Murrelet including: low nesting numbers in suitable habitat as compared to Santa Barbara Island; low population numbers in comparison to Santa Barbara Island; evidence of rat predation on murrelet eggs; and extremely low nesting success in areas known to be accessible to rats when considered together suggests that rats are suppressing Xantus' Murrelet population numbers on Anacapa Island, an area that has similar nesting habitat availability as rat free Santa Barbara Island.

Anacapa Island deer mouse, *Peromyscus maniculatus anacapae*. The proposed rodenticide in the preferred alternative (brodifacoum) is quite powerful - single ingestion leads to death. Although the language is delicate, it is clear that many mice will be killed and there is the distinct possibility that the entire population will be wiped out. The stated mitigation for this is to sequentially treat the island (apparently the island is actually divided into several land masses, although this is never spelled out very clearly) with aerial application of rodenticide: one year one side, the next year the other side. Chapter 2, page 13 states:

H6

> "The sequential treatment of the islets will ensure that there is always a viable population of deer mice on one of the three Anacapa islets."

It is unclear why this should be the case.

In Chapter 4, page 63, the argument is made that because rats are competitively dominant to mice, rats will consume all or the majority of the bait before the mice can get to it. The supposition is that enough of a remnant population of mice will be left alive that this population can rebuild, apparently unharmed. However, in Chapter 1, page 2, the document states that the rat population fluctuates between 750 and 2000 annually. Thus, it would seem extremely difficult to estimate an application amount of brodifacoum which would selectively target rats, leaving none for the mice.

H7

Chapter 2, page 13 goes on to state: "The following management actions may be implemented: Captive breeding population on island or on the mainland." Given the difficulty of correctly measuring rodenticide application to target only rats, PSG assumes that this step must be implemented. **PSG recommend's that the FEIS include a detailed section on exactly how the endemic deer mouse population will be maintained**, including:

H8 (1) How the population be sampled a priori to determine the number of mice needed in such a program, and from which locations throughout the three islets, to ensure the viability and genetic health of the population.

H9 (2) The specific capture, handling, and captive breeding methods.

H10 (3) Release sites and dates, relative to the rat eradication schedule, and post-release monitoring methods.

Human Visitation

According to the DEIS, Anacapa Island is visited annually by 16,000 visitors. This figure includes individual campers, and counts of people brought to the island by park concessionaires (the bulk of the total). Although these people are confined to one part of the island (East Anacapa), one wonders what effect they have on the lack of nesting by seabirds. More importantly, this level of visitation is a potential vehicle for rat re-introduction, a subject mentioned in general (although this particular route of re-introduction is not explicitly discussed). The mitigation for re-introduction is an Emergency Response Plan which includes the provision (Chapter 1, page 4):

H3: No pre-rat historical breeding population data is known to exist for the Xantus' Murrelet or other seabirds for Anacapa Island. Because no pre-rat population data is available the Park has to rely on: 1) population data comparisons between Anacapa and Santa Barbara Island; 2) known rat impacts to seabird colonies on other islands; and 3) direct evidence of rat predation on Anacapa Island seabirds to make an assessment on the impact rats are having on Anacapa Island seabird colonies. The Park's assessment is that rat impacts are suppressing the crevice nesting seabird population on Anacapa Island. This assessment is consistent with the suggestions given by species experts that eradicating rats to protect crevice-nesting seabirds is a necessary conservation project.

H4: The most complete assessment of potential nesting habitat for crevice-nesting seabirds on Anacapa Island was done by McChesney et. al (2000). The executive summary of this report can be found in Appendix D.

H5: See H2.

H6: The treatment of the islets would be carried out over a two year period. East Island would be treated in Year 1. In Year 2, Middle and West Island would be treated. In between treatment of East and Middle/West Islands, mice could be moved from Middle and West Island to rat-free East Island. The mouse population would be allowed to grow, and individuals would be transported over to Middle and West Island post eradication thereby ensuring the viability and genetic diversity of the mouse population. This mitigation measure may be implemented independently or in conjunction with other mitigation measures outlined in Chapter 2.

H7: Both mice and rats are rodents, and the bait will be attractive to both species. It is a logistical challenge to eradicate rats without having a significant impact on the local Deer Mouse population. The NPS recognizes the need for the conservation of the Anacapa Deer Mouse and is a priority of the AIRP. The NPS will ensure the genetic diversity and viability of the Deer Mouse population is protected (See H8 –H10).

H8: The conservation and management of Anacapa Island deer mice is a high priority for the AIRP. The genetic and morphological status of the Anacapa Deer Mouse has been investigated using genetics, morphometrics and computer modeling (mitochondrial DNA (mtDNA) analysis, morphometric discriminant function analysis and population viability analysis (see Pergams et al. 2000)). The morphological and genetic analysis confirms that the Anacapa Deer Mouse is a distinct subspecies when compared to other populations from the mainland and other islands. The mice on each islet are not genetically distinct from the other islets indicating that the population could be managed as one unit. In other words, the mice across all three islets are genetically indistinct. The results of the computer modeling have indicated that 1000 mice collected across all three islets would be adequate to ensure a viable and genetically diverse population.

"3) Control rodents at all departure points, including planes, boats, and helicopters that transport people and materials to the Islands."

Unfortunately, the document does not explain how this will happen. Because tourists are such a large presence on the island, and they are brought to the island by concessionaires, **the DEIS should contain specific implementation plans to make sure tourists and concessionaires as potential rat vectors are controlled**. PSG would like to see this added to the FEIS. H11

Effects on Raptors

The DEIS admits that secondary effects are likely for raptors which prey on rodents, as many striken mice and rats will die outside of their burrows: Chapter 4, page 63 states:

"There would be extensive secondary poisoning of the birds of prey with the use of brodifacoum or bromadiolone."

Potential mitigation includes a supplemental feeding program started before the rodenticide application and continuing through until after the baiting period, and/or a program to find and collect all (most?) of the carcasses before the raptors can get to them. However, the document makes extensive mention of the fact that large portions of the island are not accessible by humans, hence the need for aerial application of rodenticide. Thus it would seem that the stated raptor mitigation strategy is suspect. **PSG would like to see a discussion of the numbers and species of raptors likely to be affected, as well as a detailed and logistically manageable implementation plan for mitigating the effects of rodenticide application**. H12

Conclusion

The use of aerial broadcast of toxicants is controversial due to the appearance of an indiscriminant application of powerful poisons. This public perception is compounded by secondary poisonings of non-target species and can only be dispelled though extensive public education. PSG recommends extreme caution in the design and implementation of the Anacapa Island rat eradication project because this first use of a critically important tool to seabirds – aerial application of powerful rodenticides - must not fail on any level. In short, this inaugural eradication must be flawless in order to not engender a public backlash. From what we know and have read of the public perceptions regarding the Anacapa eradication as well as the level of documentation in the DEIS, we feel the public still has significant doubts about the process, the justification for use, and the guaranteed outcome. If proper documentation and adequate public outreach and education efforts means delaying the project one or two years until: (1) the FEIS can be rewritten as outlined above, (2) the bait formulation is granted by the EPA, (3) the public is informed and generally supportive, (4) a colony of endemic deer mice is established off-island, and (5) PSG decides whether to petition for endangered species status for Xantus' Murrelets, then a successful eradication can be virtually guaranteed and we will wholeheartedly endorse this project.

5

H9/H10: *Peromyscus* spp. are one of the most ubiquitous small mammals in North America. These populations are highly tolerant to disturbance and habitat alteration and populations are very resilient. They readily breed and do well in captivity. Populations of *Peromyscus* are managed in laboratories such as at the Brookfield Zoo in Brookfield, Illinois, or the Peromyscus Genetic Stock Center at the University of South Carolina. The capture, handling and breeding methodology has been well documented in the scientific literature. Consultation with *Peromyscus* and genetic experts from the Brookfield Zoo and University of Illinois is underway to develop a protection plan that will incorporate handling/breeding methodology to ensure genetic diversity and a viable population. The plan will include a re-release schedule including monitoring ensuring that the population will remain viable post eradication. The Effectiveness and Validation Monitoring program will aid in the development of an effective management program for the Anacapa Deer Mouse by identifying problem areas that would allow changes to the protection plan prior to completion of the baiting.

Changes to the Deer Mouse protection plan have been incorporated into Chapter II, page 17.

H11: The Non-Native Rodent Introduction Prevention Plan has been adequately outlined on page 14. The basic premise is that through active rodent control around all departure points, as well as a strong educational component, there would be a low probability of re-introducing rats on to the island.

H12: The numbers and species of raptors likely affected by the program have been discussed in Chapter IV, page 73. Secondary poisoning of birds of prey is of concern to the AIRP. Mortality of individual non-target birds will be mitigated where possible. However, from an ecological perspective such mortality is only significant if it causes a long term population decline. There are no endemic birds of prey on Anacapa Island. The birds of prey on the Channel Islands are habitat limited, i.e., there are more birds than there is available habitat. Most of the birds of prey, as well as ravens, are killed in the vicinity of Least Tern breeding colonies in an ongoing effort to protect this endangered species from predation. The ongoing nature of predatory bird control around Least Tern colonies suggests that any decrease in predatory birds due to the rat removal on Anacapa will be temporary.

Consultation with the Predatory Bird Research Group (PBRG), University of California, Santa Cruz, is underway to develop mitigation plans for birds of prey. The Effectiveness and Validation Monitoring program will aid in the development of an effective raptor mitigation program which may include any or all aspects of the mitigation as outlined on page 73.

[i] Warheit, K. I., Harrison, C. S., & Divoky. G. J. 1997. *Exxon Valdez* Oil Spill Seabird Restoration Project Final Report. Pacific Seabird Group Technical Publ. 1.

[ii] Burger, J. & Gochfeld, M. 1994. Predation and effects of humans on island-nesting seabirds. In: Seabirds on Island: Threats, Case Studies and Action Plans. D. N. Nettleship, J. Burger, & M. Gochfeld, eds. BirdLife International, Cambridge. pp: 39-67.